

Amendments to the Abstract:

Please replace the abstract with the following amended abstract:

The datatype for a SQL template with references is cached, resolved, and escalated, accelerating the processing of the SQL template to fetch the datatype of the SQL template. The SQL template that the user provides for an object is also validated. The datatypes of the direct children of an SQL statement are required to resolve the datatype of the SQL template. Consequently, the datatype of each object with its associated SQL template is placed in cache to leverage its use when referenced by another object. An advantage is that datatype resolution may be performed in constant time since the SQL template remains the same except for the substitution of datatypes for tokens. In addition, the algorithm generating the valid SQL statement used to resolve the datatype is relatively simple, using a simple "search and replace" of tokens with the function "cast(NULL as DATATYPE)". Furthermore, the resulting valid SQL statement is much smaller than that provided by conventional systems. Consequently, the depth of the reference tree analyzed for datatype may be much larger than that analyzed by conventional systems and methods. Methods and apparatus, including computer program products, for datatype caching of an SQL template with references. The SQL template is converted into a converted SQL template with an associated cast function. A datatype of the converted SQL template is acquired. The datatype of the converted SQL template is stored with the SQL template. As a result, datatype resolution can be performed in constant time and the depth of the reference tree analyzed for the datatype can be larger compared to conventional systems and methods.